*true* art may be seen, even in bricks, in our ordinary streets, it will eclipse the more assuming buildings around, which have their superficial and butterfly splendour plastered on—never to superior material, oftentimes, relying on concealment behind their showy exterior, to weak unsubstantial place-bricks wretchedly mortared together.

A second objection may be raised as to comfort. It is said that bricks absorb moisture, and therefore hollow walls should always be provided, or a coat of plaster laid on to keep the dampout. Of all the inventions—and their name is legion—brought forward to counteract this evil,—though their prospectuses had asserted them to be very little dearer (some even cheaper) than ordinary bricks,—none have become generally used. The reason, I think, is, that though theoretically, the old method of laying bricks has been shown to be wrong, *practically*,—by those who live in a 14-in. walled house—no inconvenience is felt. When a building is just finished, the walls are of course damp, but they soon dry, and I think, effectually. This is, assuming that the brick-work be properly laid, and with what fine joints it may be done, is seen in the buildings erected about a century and a half since, or a little earlier. I imagine, were this done, and the site well drained, there would be no need of such inventions.

Lastly, it may be said that brickwork is too expensive. When we consider its durability, and that compo is continually requiring repainting, is not this objection set aside? Were it not for the duty, it would be much cheaper.

A word or two ere I conclude on the "style." The ecclesiastic, having by an Oxford patent galvanized the dead bones of Catholicity, digs up her Gothic shroud, and avers *that*, with all its grave-begotten uncleanness, to be *our* national fabric. Might not the same, with equal justice, be said of Stone-henge? Yet, at the wink of this expiring flame, new chancels, sedilia, piscina, rood-lofts, puny little panes of glass to fill

> "Storied windows richly dight,
> *Mullion'd to exclude the light*"—

have arisen, as if by magic, with no other good than a little amusement to the spectators. Let me not be understood as hostile to the beauties of mediæval art: but I hold that modern science and requirement should not give place for *their* re-production, much less, for that of its quaintness, bad drawing, and absurdity. Brickwork will never re-produce Gothic architecture, we may be satisfied. "What style will it then take?" I would answer, Let us think not of that; "*style*" but denotes what is *past*. Hold fast to Truth and Harmony—follow and trust in them; *their* beauty may then envelope *us*. Let us rest assured no perfect Grecian, Roman, or Gothic art *can* ever be revived. The stream of time ebbs not, and they have all been left upon its banks.

Wm. Boutcher.

## THE INSTITUTE OF THE FINE ARTS.

The council of the Institute of Fine Arts, anxious to cancel an overhanging debt, and to render its funds commensurate with an enlarged sphere of usefulness, are making an appeal to the upholders of the fine arts in this country for assistance. A number of the members have volunteered to present to the society some work of art, and from the collection, which will thus be formed the council offer donors of ten guineas first, and of five guineas secondly, a choice.

The number of members possessed by the institute is at present 300; it ought to be four times as many, and would be, we cannot help thinking, if its managers (who nevertheless deserve praise for personal exertions) took more enlarged views, and acted with greater vigour.

Amongst other steps, we would suggest to them a judicious increase of their list of honorary and corresponding members at home and abroad, comprising those who deserve well of art; the establishment of a corresponding member in every important town in the kingdom; and the formation of a new class of honorary members, with a distinctive title, open to the Royal Academicians, on payment of, say 20 guineas.

## GEORGE STEPHENSON

THE MATURER OF THE RAILWAY LOCOMOTIVE.

Amid the competitive claims of not a few men of thought and invention to a share of the merit, ideal and practical, of originating the grand leading feature of this "age of iron"—the railway system—we presume that no one will deny that the extraordinary man who has recently quitted this earthly stage of human ambition, with fewer of its vanities, we daresay, or even of its vexations of spirit, than fall to the lot of the many,—merits, at least, the honour, great as it is, of being considered the "establisher and maturer of the railway locomotive."

That there are, or have been, not a few aspirants to the still higher and more comprehensive honour—due, in all probability, to no one individual—of being the originator, practical and theoretical, of the railway system at large, need not be wondered at, considering that, when the steam-engine had once suggested the idea of the substitution of steam power for animal power, the mere desire to imitate the old modes of conveyance by help of the new modes of power, must have tended to force itself into every mind enlightened or interested in the new discoveries and inventions of the previous age. And that the locomotive was from the first but "the iron horse," not only in idea, but in practical effort, will be clearly seen when the fact is recollected, that in 1813—sixteen years before Mr. Stephenson's first ostensible railway locomotive won the grand locomotive race on the first locomotive railway—Mr. William Brunton, of Butterley Iron-works, patented an iron horse with legs!

But that even the amalgamation of the four-legged horse with its four-wheeled vehicle was itself too obvious an idea not to have also from the same first origin forced itself into notice, may be seen from the fact, that even so far back as 1802, Messrs. Trevithic and Vivian patented a high-pressure engine with wheels, adapted to locomotion, but designed for turnpike-roads, and in fact exhibited it that very year near Bethlehem hospital, where all the metropolis might have seen it running.

Even the idea of the adaptation of the locomotive to the rail must have forced itself simultaneously on the minds of many, as a mere desirable improvement of the old jog-trot horse-and-waggon railway, or even of the scarcely less old self-acting plane, or rope and steam-engine, railway system; and the idea certainly did originate with several. Thus, in 1811, Mr. John Blenkinsopp, of Middleton colliery, near Leeds, patented a rack-rail, on which a steam-engine with rack wheels was to travel, there being an erroneous notion at that time in the minds of engineers that an engine would not travel on a smooth rail, for want of "bite." And although doubts of a like description prevailed in the minds of many, and even amongst the shareholders of the first great line of rail connected with the present system, down to 1829, when the contrary was proved by Mr. Stephenson and his competitors, so far back as 1814 it had become known, through an experiment made by Mr. Blackett, on the Wylam waggon way, with an engine constructed in 1813, that racks, and chains, and legs were all superfluous, the wheels gripping a plate rail, and moving onwards independently of any assistance whatever.

As remarked, too, by Mr. Charles Maclaren, editor of the *Scotsman*, esteemed as a man of science and ability, and moreover one of the claimants to the credit of having "first anticipated the marvels of railway travelling,"—articles by him in the *Scotsman* drawing attention to this grand idea having been published in 1824, republished in 1825, translated into French and German, and reprinted in the United States,—so far back as 1807 a distinguished philosopher, Dr. Young, in his lectures on natural philosophy, while laying down the theory of friction, suggested the idea, that "it is possible that roads paved with iron may hereafter be employed for the purpose of expeditious travelling, since there is scarcely any resistance to be overcome, except that of the air; *and such roads will allow the velocity to be increased almost without limit.*"

Though many have merited a share of that honour, however, in the distribution of which amongst them we must not overlook the name of Mr. Thomas Gray, already sufficiently noticed on previous occasions in The Builder, it remained for the esteemed owner of the name at the head of this article, after all was said and done, to *realize* the grand idea on a *practical* basis, which he more and more matured, at least, if he did not originate.

Mr. Stephenson the elder (the subject of the present desultory notice), was in the 68th year of his age when he died, at Tapton House, near Chesterfield, on Saturday, the 12th of August current.* He was born on 9th June, 1781, of the most humble parentage, at a solitary cot or cottage, on the Tyne, between Wylam and Closehouse, Northumberland, about eight miles west of Newcastle. His father was an engine-tenter at a colliery, and he himself began life as a pit engine-boy at 2d. a day's wages, and afterwards acted as a stoker, and as a breaksman in the employment of Lord Ravensworth and partners, where his mechanical talent first forced itself into notice in the amateur repair and improvement of a condensing pump-engine, where some engineers had failed. He was then promoted to the office of engineman; but we do not know whether it was at this critical period of his history, or even earlier, that he declared to a confidant, that having risen from 2d. a-day to the independent sum of 12s. a-week, he was now a man for life. At this very time, at all events, the fates began to educate him for his future and still more manly career in life; for something went *wrong with the waggon way*, or it never had been any thing else but wrong until he tried his apprentice hand upon it, and of course improved it. He was afterwards employed in forming railway planes and engines under ground. Indeed we may say, that from this time forward, his peculiar mission was chalked out for him, as, in the midst of defects in the working of coal railways, he happened to be placed in the most favourable circumstances possible for the engagement of his attention and his peculiar talent. "In this, however," as remarked by a writer in the *Gateshead Observer*, to whom we are indebted for the record of some of these facts, "he was not singular. The same question had occupied, and was occupying, other minds; and we put in for Mr. Stephenson no higher claim than that he was the most prominent and meritorious of the men who founded the modern system of railway-travelling."

The main points in his subsequent career we cannot better describe than in his own words at the opening of the Newcastle and Darlington line of railway in 1844:—

"Mr. Liddell has told you that in my younger days I worked at an engine in a coal-pit. I had then to work early and late, often rising to my labour at one and two o'clock in the morning. Time rolled on, and I had the happiness to make some improvements in engine-work. The first locomotive that I made was at Killingworth colliery, and with Lord Ravensworth's money. That engine was made 32 years ago, and we called it *My Lord*. I said to my friends that there was no limit to the speed of such an engine, provided the works could be made to stand. * * * I betook myself to mending my neighbours' clocks and watches at nights, after my daily labour was done; and thus I procured the means of educating my son. He became my assistant and companion. He got an appointment as under-viewer; and at nights we worked together at our engineering. I got leave to go from Killingworth to lay down a railway at Hetton, and next to Darlington; and after that I went to Liverpool, to plan a line to Manchester. I there pledged myself to attain a speed of ten miles an hour. I said I had no doubt the locomotive might be made to go much faster, but we had better be moderate at the beginning. The Directors said I was quite right; for if, when they went to Parliament, I talked of going at a greater rate than ten miles an hour, I would put a cross on the concern. It was not an easy task for me to keep the engine down to ten miles an hour; but it must be done, and I did my best. I had to place myself in the most unpleasant of all positions—the witness-box of a Parliamentary Committee. Some one inquired if I was a foreigner? and another hinted that I was mad.† I put up with every rebuff, and went on

* His death is attributed to his having spent nearly the whole of his time latterly, in the impure air of a hot-house, in a praiseworthy, but imprudent, rivalry with the Duke of Devonshire, in the cultivation of certain exotics. Whether peer or commoner, Stephenson could not bear that any man should be his superior or equal in anything he undertook.

† Many of the shareholders themselves had previously manifested symptoms of the same way of thinking; they became alarmed at the "mad" scheme of this "Watt